Yoshinobu Tanno *August 17, 2015*

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**Summary**

I studied computer science at the University of Aizu during undergraduate and master degree. After acquired master degree, I am working as a technical engineer at the University of Aizu. Then I had an opportunity of lectures about the way to communicate with hardware because I am widely recognized as an expert in the field. My education background is communication between computer and other devices. In a master’s thesis, I was developing system for saving power supply by human behavior using depth camera and embedded system. After graduation, I have made hardware prototypes for promoting research under the background.

**Research Experience**

Creating sensor network, 3d printer fabrication, image processing assistant tools and so on. Also I lectured programming to student or created prototype hardware for exhibition.

The University of Aizu Fukushima, Japan

**Research Assistant** Apr 2012-present

* Manufacturing inverted pendulum with Arduino and gyro sensor.
* Creating sensor network in a lab with Arduino and temperature sensor.
* Controlling camera moving with face from Kinect.
* Controlling ArDrone2.0 to ARDrone-Control-.NET.
* Developing a robot that is controlled with Proportional-Integral (PI) controls operated by Matlab and Simulink.
* Displaying image in VGA with evaluation version of FPGA (Xilinx).
* Creating led timer with evaluation version of FPGA (Altera).
* Hacking Lego with Not eXactly C (NXC).
* Detecting motion objects with Kinect.
* Creating logger of visual field and brain wave with USB camera and sensor.
* Manufacturing automatic water winding machine with the refueling pump.
* Creating data gloves with bending sensor for virtual keyboard evaluation.
* Creating logger of movement with ZigBee and GPS sensor.
* Creating stereo camera frames with a 3d printer.
* Helping to build a web page for viewing sensor information with PHP in Visual Studio and Eclipse.
* Rewriting program language in C# from FORTRAN to An artificial neural network (ANN) and genetic algorithm (GA) approach.
* Creating investment-supporting tools with a server and client system.
* Creating image-cutting tools with OPEN SOURCE COMPUTER VISON LIBRARY (OPENCV).
* Creating files share system prototype with FILESYSTEM IN USERSPACE (FUSE).
* Creating book sample of IPhone application for Objective-C.
* Creating augmented reality (AR) named card.
* Creating virtual desktop viewer with AR marker.

The above works and other are my home page <http://ytanno.herokuapp.com/>

Computer System Computer Science, the University of Aizu. Fukushima, Japan

**Master Student** **| Teaching Assistant** *Apr 2010-Mar 2012*

* Creating sensor network in a lab. I used Arduino and temperature sensor and twitter API and C#.
* Building system to save power consumption using human behavior.  
  ・Estimating human behavior using Kinect as depth camera.  
  ・Developing detection of human's front whether or back, from depth image using machine learning.  
  ・Controlling power switches of electrical appliances via network.

Computer Software Computer Science, the University of Aizu. Fukushima, Japan

**Undergraduate Student | Teaching Assistant** *Apr 2005-Mar 2010*

* Building application to manage digital document.  
  ・Realizing GUI with C#.  
  ・Developing tagging and visualizing documents by a tree structure.

**Teaching and Teaching Assistant Experience**

* Technical lecture in a laboratory (13 times)

I taught about programming with C#, PHP, Python and a way of setting a development environment and a way of access sensor (USB camera and Kinect) and basic knowledge of image processing and way of accessing image data.

* Experiencing teaching assistant computer literacy and C programming for two years.

**Skills**

**Programming:**

C/C++/C#/Java/Python/Ruby/Ruby on Rails/PHP/javascript/Objective-C/R/NXC/TypeScript/HTML/PowerShell/MySQL

**Software:**

Autodesk/Openframeworks/Processing/Matlab/Simulink/Excel (VBA)/Wireshark/VisualStudio/Eclipse/FFmpeg/Unity/Emacs/Vim/HiRDB/MongoDB/SQLServer/IIS/Xampp

**Hardware:**

Special Camera (Bumblebee2, EVI-D100, AI-Ball), Depth Camera (Kinect, Xtion Pro Live), Microcomputer board (Arduino, PandaBoard, SakuraBoard), FPGA (Xilinx, Altera), Robot (ArDrone, Roomba, Lego), Microcomputer board add-in sensor (GPS, Temperature, Gyro, Acceleration, Infrared, Humidity, Illuminance, Bending), Other (Leap Motion Controller, iPod, MindTune, AirPcap)

**Handicraft:** Measuring/Designing/Modeling

**Machinery:** Soldering iron/3D printer/

**Natural Language:** Japanese (native)

**Others:**

Image Recognition/Sensor Network/Clustering/Argument Reality/Computer Vison/Windows API/RS232C (between PC and Special Camera)/ZigBee (between PC and Arduino)/IEEE1394 (between PC and Special Camera)/k-means

**ACADEMIC QUALIFICATIONS**

The University of Aizu Fukushima, Japan

**Master of Computer System**  *Apr 2010-Mar 2012*

The University of Aizu Fukushima, Japan

**B.S. in Computer Software** *Apr 2005-Mar 2010*